

CLMPTO

January 13, 2005

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Claims 1-14 are cancelled.

15. (Amended) The method of claim {14} 21, wherein at least some of said heavier polyalkylated aromatic component from said secondary separation zone is, prior to the operation of paragraph (i), applied to a tertiary separation zone wherein said heavier polyalkylated aromatic component is separated into a tertiary lower boiling fraction of said polyalkylated aromatic component comprising dialkyl and trialkyl aromatics and a heavier higher boiling residue fraction and wherein said tertiary lower boiling fraction of said polyalkylated aromatic component is supplied to said transalkylation reaction zone in accordance with paragraph (i).

16. The method of claim 15, wherein a first portion of the heavier polyalkylated aromatic component is supplied to said tertiary separation zone in accordance with claim 15 and thence from said tertiary separation zone to said transalkylation zone and a second portion of said heavier polyalkylated aromatic component from said secondary separation zone is supplied directly to said transalkylation zone.

17. The method of claim 16 wherein said high porosity zeolite-Y molecular sieve has a surface area of about 400 m²/g or less.

Claims 18-20 are cancelled.

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21. In alkylation and transalkylation of aromatic compounds, a process comprising:

- (a) supplying a feedstock containing benzene into a multistage alkylation reaction zone having a plurality of series connected catalyst beds each containing a molecular sieve aromatic alkylation catalyst having a pore size which is smaller than the average pore size of the hereinafter-recited zeolite-Y wherein said alkylation catalyst comprises predominately monoclinic silicalite having a crystal size of 0.5 μ or less and formulated with an alumina binder to provide catalyst particles having a surface area/volume ratio of at least 60 in.⁻¹;
- (b) supplying ethylene to said reaction zone;
- (c) operating said reaction zone at temperature and pressure conditions to maintain said feedstock in the gaseous phase and causing gas-phase alkylation of said benzene by said ethylene in the presence of said catalyst to produce an alkylated product comprising a mixture of monoalkylated and polyalkylated aromatic components;
- (d) recovering said alkylated product from said reaction zone and supplying said product from said reaction zone to a benzene recovery zone for the separation of benzene substrate from said alkylated product;
- (e) operating said benzene recovery zone to produce a lower boiling benzene containing fraction and a higher boiling fraction comprising a mixture of monoalkylated aromatic and polyalkylated aromatic component;
- (f) recycling benzene from said benzene recovery zone to said reaction zone;
- (g) supplying said higher boiling fraction from said benzene recovery zone to a secondary separation zone;

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- (h) operating said secondary separation zone to produce a secondary lower boiling fraction comprising a monoalkylated aromatic component and a higher boiling fraction comprising a heavier polyalkylated aromatic component;
- (i) supplying at least a portion of said polyalkylated aromatic component including the dialkylated and trialkylated aromatics in said polyalkylated component to a transalkylation reaction zone containing a high porosity zeolite-Y molecular sieve having a surface area of no more than 500 m²/g;
- (j) supplying benzene to said transalkylation zone;
- (k) operating said transalkylation reaction zone under temperature and pressure conditions to maintain said benzene in the liquid phase and effective to cause disproportionation of said polyalkylated aromatic fraction to arrive at a disproportionation product having a reduced polyalkyl benzene content and an enhanced monoalkyl benzene content;
- (l) supplying at least a portion of said disproportionation product to said benzene recovery zone.